REMARKS

This is in response to the Office Action dated September 13, 2011. Claims 1-23 are pending and stand rejected in the outstanding Office Action. No claims have been amended in the present Reply.

Applicant thanks the Examiner for consideration of the Information Disclosure Statements filed June 27, 2011, August 12, 2011 and August 30, 2011. The Examiner is respectfully requested to also consider the Information Disclosure Statement filed November 10, 2011.

The rejection of independent claim 1, as allegedly being unpatentable under 35 U.S.C. § 103(a) over Yamaguchi et al. (US 6,266,109) in view of Someya et al. (US 7,034,788), is respectfully traversed.

Regarding claim 1, the Examiner stated that Yamaguchi discloses all the limitations of the claim, including different voltages being applied to the display elements so as to display the colors required to produce a color image display, except for teaching that different voltages being applied to the display element so as to display the colors required to produce a color image display with identical gradation, so that two different voltages produce the same gradation and being selected according to a transmittance of the optical anisotropy of the medium to correct a wavelength dispersion of the optical anisotropy of the medium, and turned to Someya for the missing limitation, see p. 3 of the Office Action.

Someya discloses an image data processing device for improving the response speed of an LCD panel. More specifically, according to Someya, an LCD panel may not appropriately respond to an inputted moving image which has luminance variation which is relatively faster in speed than the response of the liquid crystal, since the transmittance of a liquid crystal varies

depending on a cumulative response effect. Thus, Someya's method improves the response speed of the liquid crystal by adjusting the driving voltage of the liquid crystal at the time of change in luminance of the inputted moving image, and more specifically by intentionally making the driving voltage larger than a normal driving voltage, col. 1, lines 8-31.

In Someya's method, an LCD panel 11 receives corrected image data (referred to as "corrected present image data") Dj1 representing luminance or density of an image from the image data processing unit 3, Fig. 1. A receiver circuit 2 sequentially receives image data which give respective pixels of a screen (referred to as "present image") to be displayed on the LCD panel 1, col. 7, lines 49-55. In operation, the image data correction circuit 10 detects whether a first luminance value indicated by the present image data Di1 and a second luminance value indicated by the one-frame preceding reproduced image data Dp0 are different from each other or not (i.e., a luminance change has occurred), and corrects the first luminance value on the basis of the present image data Di1, the one-frame preceding reproduced image data Dp0 and a control signal TP1 (related to the temperature of the LCD panel), and outputs the corrected present image data Dj1 which gives a corrected luminance value when the first and second luminance values are different from each other. Finally, the LCD panel 11 performs a display operation by applying a voltage, which is generated based on the corrected present image data Dj1, to the liquid crystal, col. 10, line 34 to col. 11, line 12.

An example of the method is shown in Fig. 5 of Someya. When the present image data Di1=127 is received, then an applied voltage V50 achieves transmittance of 50%. When the present image data Di1=191 is received, then an applied voltage V75 achieves transmittance of 75%. As shown in Fig. 5, it takes a response time longer than the one frame period to increase the transmittance of the liquid crystal from 0% up to 50% and 75%. Therefore, when the

luminance value of the image data of a certain pixel in the inputted motion screen changes after the one frame period passes with time, it is possible to improve the response speed of the liquid crystal by applying an appropriate voltage, col. 15, lines 28-54.

Someya's method adjusts the voltage applied to the liquid crystal of the LCD, based on the intensity of the received image data, in order to optimize the response time speed of the liquid crystal, see col. 1, lines 8-20.

> The present invention relates to a liquid crystal display comprising (1) a liquid crystal display panel (hereinafter, referred to also as "LCD panel") which comprises a backlight, a liquid crystal (liquid crystal panel) and its driver and (2) an image data processing device for generating corrected image data from raster data inputted from the outside, which is used to determine a voltage to be applied to the liquid crystal of the LCD panel, and more particularly to a technique for processing image data for the LCD panel to optimize a response speed of the liquid crystal (which corresponds to the amount of change in transmittance of the liquid crystal per unit time) in accordance with a change in luminance of a moving image to be inputted. (emphasis added).

In other words, in Someya's method, different voltages are not applied to the liquid crystal "according to a transmittance of the optical anisotropy of the medium that corrects wavelength dispersion", emphasis added, as required by claim 1 (and the other independent claims).

The problem addressed by Someya is completely different from the problem of wavelength dispersion of the optical anisotropy of an optical material, such as a liquid crystal material, which is addressed in the invention of claim 1. Whereas, in Someya, the response speed of the liquid crystal is optimized based on the changes of intensity of the image data input to the LCD, the invention of claim 1 corrects for the inherent dependence of the optical anisotropy in an optical material on the wavelength.

Someya is not concerned with how the optical anisotropy of the crystal material varies depending on the wavelength, let alone propose a solution to this problem. There

is no mention in Someya on characteristics of the liquid crystal depending on the wavelength (the word "wavelength" is never mentioned). Someya only studies how the changing intensity of the received image data affects the response time of the liquid crystal, and how this can be optimized by checking the intensity of successive frames and appropriately varying the applied driving voltage to the liquid crystal.

Regarding this point, the Examiner cited col. 15, line 28 to col. 16, line 8, as allegedly teaching "applied voltage to correct transmittance, therefore, wavelength dispersion", emphasis added, see p. 4 of the Office Action.

The Examiner is not correct. Correcting for the effects of (varying) transmittance, is not the same/equivalent as to correcting for wavelength dispersion. By definition, wavelength dispersion relates to effects due to different wavelengths. Nowhere in Someya is it disclosed how varying wavelengths affect anything, let alone the optical anisotropy of the optical medium, e.g., liquid crystal. Someya, at most, teaches how to apply different driving voltages in order to adjust the response speed of the liquid crystal to varying luminance intensities. This is not the same as the claimed "wherein the first voltage and the second voltage are selected according to a transmittance of said optical anisotropy of the medium that corrects wavelength dispersion".

A feature of the invention of claim 1 is to limit the color discrepancies generated in the display device including the medium having the wavelength dispersion characteristic, see lines 8-24 on p. 6 of the instant specification.

In contrast, the object of Yamaguchi is to further increase efficiency for light utilization of a liquid crystal shutter employing the Kerr effect and to provide a liquid crystal optical switching element having high speed and a wide viewing angle, see col. 2, line 66 to col. 3, line

7. Furthermore, the object of Someya is to provide a liquid crystal display panel image data processing technique capable of controlling the response speed of a liquid crystal accurately in such a manner that a voltage to be applied to the liquid crystal is appropriately controlled in accordance with change over time of luminance of an input moving image and change in ambient temperature of a liquid crystal display panel, see lines 22-31, col. 3.

As described above, there is no common technical object between the inventions of Yamaguchi and Someya and the invention of claim 1. Furthermore, the objects of Yamaguchi and Someya are totally different from each other, thus one of ordinary skill in the art would not have been motivated to combine Yamaguchi and Someya.

For at least the above reasons, claim 1 is allowable. Claims 4-5 and 15 include limitations similar to those of claim 1 and are also allowable.

It is respectfully requested that the rejection of claims 2-3, 6-14 and 16-23 each being dependent from claim 1, 4, 5, or 15, also be withdrawn.

In view of the foregoing and other considerations, all claims are deemed in condition for allowance. A formal indication of allowability is earnestly solicited.

The Commissioner is authorized to charge the undersigned's deposit account #14-1140 in whatever amount is necessary for entry of these papers and the continued pendency of the captioned application.

Should the Examiner feel that an interview with the undersigned would facilitate allowance of this application, the Examiner is encouraged to contact the undersigned.

Respectfully submitted,

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